

---

## NAS NORTH ISLAND - NAVY REGION SOUTHWEST

### NAVY ENVIRONMENTAL LEADERSHIP PROGRAM

---

## COMPLIANCE

### MESH PAD DEMISTER

#### LEAD ACTIVITY

Naval Aviation Depot (NADEP) North Island

#### STATUS

Completed

#### MISSION

Comply with San Diego County Air Pollution Control District (APCD) emission control standards; reduce toxic air emissions

#### DESCRIPTION

The mesh pad "demister" or mist eliminator implemented at Naval Aviation Depot (NADEP), North Island captures and reuses chromic acid emissions generated by NADEP's chrome plating process. This unit replaced a closed-loop wet scrubber system and was installed to meet air emission regulations. The mesh pad demister achieved the 99.8 percent chromic acid emissions removal efficiency required by the San Diego County APCD standards.



The Mesh Pad Demister Installed at Naval Aviation Building 472

For hard chromium electroplating at large facilities, the mesh pad demister is the maximum achievable control technology (MACT), determined by the APCD. Title III of the Clean Air Act specifies the implementation schedule of MACT emissions controls. Existing facilities are required to achieve the removal efficiency of the mesh pad by January 25, 1997. New or reconstructed facilities must comply immediately upon startup.

The mesh pad demister unit at NADEP reduced operation costs because of its success in increasing the efficiency of the process. First, implementation of the unit eliminated final industrial wastewater treatment of hazardous wastewater (EPA RCRA waste D007) (the old wet scrubber system had generated a larger volume of wastewater than could be reused). Second, the demister reduced the amount of water used to replace plating tank evaporative losses. Third, it reduced chromium trioxide ( $\text{CrO}_3$ ), reportable toxic chemicals, and other raw material requirements for the chrome plating tanks. The cost for the mesh pad demister is approximately \$600,000, including installation. It was estimated that 900 gallons of water and 11.3 pounds of hexavalent chrome are reused daily, resulting in an annual cost saving of \$200,000.

**BIBLIOGRAPHY**

- NADEP, North Island. North Island Teamwork Gets New Chrome Scrubbers Installed. April 1994. Depot Talk. Virginia Lyon.
- Hokanson, D.C. Hill Air Force Base Upgrades Emission Control Equipment to Meet Anticipated Chromium Standards, Pollution Equipment News reprint.

*UPDATED: 01/23/02*